

CLAIMS

- 1 1. A method of determining overlay tolerance, comprising:
2
3 exposing wafers at different critical dimensions;
4
5 varying the overlay across each wafer; and
6
7 using functional yield data to determine the overlay tolerance for each of the image
8 sizes.
- 1 2. A method according to Claim 1, wherein the exposing step includes the step of
2 exposing the wafers at critical dimensions relative to an optimum image size.
- 1 3. A method according to Claim 2, wherein the step of exposing the wafers at critical
2 dimensions includes the step of exposing the wafers at critical dimensions above, below
3 and at the optimum image size.
- 1 4. A method according to Claim 1, wherein the varying step includes the step of
2 varying the overlay across each wafer by intentionally changing the magnification.
- 1 5. A method according to Claim 4, wherein the step of varying the overlay across each
2 wafer includes the step of varying the overlay across each wafer by intentionally
3 increasing the magnification.
- 1 6. A method according to Claim 1, wherein the using step includes the steps of:
2
3 testing each of the wafers to identify a good region and a bad region; and
4

5 identifying the overlay tolerance, at which the bad region begins, as said determined
6 overlay tolerance.

1 7. A method according to Claim 1, wherein the using step includes the step of:
2
3 searching the overlays across one of the wafers for a defined feature; and
4
5 if the defined feature is found in one of the searched overlays, identifying the overlay
6 tolerance of said one of the overlays as the determined overlay tolerance.

1 8. A system for determining overlay tolerance, comprising:
2
3 means for exposing wafers at different critical dimensions;
4
5 means for varying the overlay across each wafer; and
6
7 means for using functional yield data to determine the overlay tolerance for each of the
8 image sizes.

1 9. A system according to Claim 8, wherein the exposing means includes means for
2 exposing the wafers at critical dimensions relative to an optimum image size.

1 10. A system according to Claim 9, wherein the means for exposing the wafers at critical
2 dimensions includes means for exposing the wafers at critical dimensions above, below
3 and at the optimum image size.

1 11. A system according to Claim 8, wherein the varying means includes means for
2 varying the overlay across each wafer by intentionally changing the magnification.

1 12. A system according to Claim 11, wherein the means for varying the overlay across
2 each wafer includes means for varying the overlay across each wafer by intentionally
3 increasing the magnification.

1 13. A system according to Claim 8, wherein the using means includes:
2
3 means for testing each of the wafers to identify a good region and a bad region; and
4
5 means for identifying the overlay tolerance, at which the bad region begins, as said
6 determined overlay tolerance.

1 14. A system according to Claim 8, wherein the using means includes:
2
3 means for searching the overlays across one of the wafers for a defined feature; and
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5 if the defined feature is found in one of the searched overlays, means for identifying the
6 overlay tolerance of said one of the overlays as the determined overlay tolerance.